

# Environment, Planning and Countryside Committee

## EPC(2) 05-06 (p6)

### 23 March meeting

#### Submission by NFU Cymru

NFU Cymru is grateful for the invitation to attend EPC committee today, and we are delighted to be able to present our views on energy crops to you.

NFU Cymru believes that renewable energy sources should be pursued in the UK and Europe to reduce reliance on imported fuels, reduce greenhouse gas emissions to help tackle the effects of climate change. Bioenergy can and must play a full part in a diverse range of renewable energy options in the Wales to help meet carbon saving targets. Biomass and biofuels show significant carbon savings compared to fossil fuels.

Biomass feedstock for energy can be domestically supplied through:

- Dedicated biomass crops.
- Utilisation of waste biomass (animal waste, wood, etc.)

Development of a domestic bioenergy industry will:

- Increase domestic fuel security as fossil fuels deplete and become more expensive.
- Help fulfil UK commitments to tackle climate change using resources in Wales rather than offsetting our responsibilities to foreign countries.
- Provide alternative markets and a much-needed boost for declining North Sea refineries, Welsh agriculture and the rural economy.

UK bioenergy technology is in its infancy but given support and a clear long term strategy for development, we are confident that future technological advances will show increased efficiency of carbon saving and economies in production and processing.

Development of the domestic industry will provide the framework to utilise the energy potential of waste biomass and contribute to reducing waste problems.

Welsh agriculture can provide renewable energy and maintain food production.

## **How can biomass and biofuels contribute to tackling climate change?**

Carbon sequestration by crops during growth means that these fuels are close to carbon neutral. The exact carbon saving will depend on the crop used and the production and processing methods

Biomass can be used generate electricity by burning wood, energy crops or animal waste. Currently the main option is through co-firing in coal-fired power stations in order to save carbon dioxide emission. Capturing heat as well as power mean that biomass crops can be burnt with up to 80% efficiency. Such Combined Heat and Power stations offer real renewable prospects, and opportunities can range from small scale systems in schools and hospitals to larger scale projects providing heating for residential, domestic and commercial settings.

The feedstock for biomass fuelled CHP can come from waste products as well as energy crops such as miscanthus and short rotation coppice (SRC). One of the main advantages of biomass crops and biofuels is that many such as wheat, sugar beet, oilseed rape and miscanthus can be grown domestically. Farmers in Wales are well positioned to start providing many of these products, given the right signals.

## **What proportion of UKs energy needs could energy crops provide?**

The Biomass Task Force estimated that 1 million hectares of agricultural land could be available for non-food uses, along with 5-6 million tonnes of wood waste produced annually, this could be harnessed to produce heat and electricity.

The EU has set an indicative Renewable Transport Fuel Obligation (RTFO) target of 2% by 2005, rising to 5% by 2010. By the end of 2005, UK use of biofuels had reached only 0.3%. NFU Cymru is of the view that UK farming could reach the 5% RTFO target for petrol by 2010 using the UKs exportable wheat surplus of 2.9 million tonnes to produce over 1.2 billion litres of bio-ethanol. Similarly 5% RTFO biodiesel can be met by UK feedstock, estimates of requirements stand at around 1.25 billion litres equating to 2.6 million tonnes of oil seed rape or 750,000 ha of crop.

The 5% RTFO need not be split evenly between diesel and petrol, and the target is achievable if government sends out the right signals to UK agriculture.

## **How cost effective are biomass and biofuels when compared with fossil fuels and other forms of renewable energy?**

Biomass and biofuel technology has been around for some time, however these industries are relatively new to Wales and the UK, and sadly have seen little research and development funding when compared to fossil fuels and other renewable technologies.

Current systems such as coal power show an extraction efficiency of around 30%, however burning biomass crops where the heat is also captured gives a figure of 80-90%. Transport costs of biomass can impact significantly on cost effectiveness as well as diminishing carbon saving. These must be controlled otherwise they will compromise the value of using biomass crops.

Biomass and biofuels have the assurance of continuity of supply, and fuel can be stored and used to provide energy as needed. This gives a major advantage over other renewable sources that are prone to intermittent supply (such as wind).

Life cycle analysis of carbon savings from biofuels and biomass varies. Useful indicative values for life cycle CO<sub>2</sub> savings for biodiesel are 53% and 64% from bioethanol when compared to fossil fuel equivalents. We are confident that these figures can be improved further as technology matures, and that savings of 80% are achievable.

### **How can the Welsh Assembly Government and the UK Government help develop the biomass and biofuels industry?**

Biomass crops are generally a long-term commitment for the farmer, for example short rotation coppice and miscanthus have high establishment costs and need to be grown for several years before the economic returns become viable. A clear long term biofuels strategy that sets out fiscal policy for at least five years and shows how the UK will progress towards the 5% RTFO by 2010 is needed.

Some of the current barriers such as the regulation surrounding the use of waste products in energy generation need to be dismantled. The process involved in connection to and selling electricity to the national grid has tended to favour the large scale producer over the smaller producer, and this issue needs to be addressed.

Biomass and biofuels for domestic consumption need to be supplied domestically as a rule. Importing from abroad negates any potential carbon saving and encouraging production of crops such as palm oil and sugar cane can have the unintended consequence of promoting forest clearance for the production of these crops.

### **What are other countries doing?**

Countries that have benefited the most from successful biomass and bio energy industries have mainly benefited from long term government support strategies, giving investors and producers confidence to enter the market. For example the full duty concession for biodiesel in Germany has raised confidence and attracted investment. Brazil and the USA responded to the fuel shocks of the 1970s by developing their bioethanol industries through tax advantages. Brazil is the largest producer of bioethanol today (13 billion lt/yr) with internal consumption of 12.4 billion lt/yr, whilst in the USA 2% of motor fuel consumption is bio-ethanol.

**The UK and Wales biofuels industry is entering an important phase and needs clear signals that will provide long-term confidence in the market and encourage sufficient investment in biofuel plants and infrastructure to develop the domestic market.**